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BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Paper No. 14

Application Number: 08/868,972
Filing Date: June 04, 1997
Appellant(s): AMIT GUPTA et al

Thomas D. Robbins
For Appellant

EXAMINER'S ANSWER

This is in response to appellant's brief on appeal filed November 15, 2000.

(1) Real Party in Interest

A statement identifying the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The brief does not contain a statement identifying the related appeals and interferences which will directly affect or be directly affected by or have a bearing on the decision in the

pending appeal is contained in the brief. Therefore, it is presumed that there are none. The Board, however, may exercise its discretion to require an explicit statement as to the existence of any related appeals and interferences.

(3) Status of Claims

The statement of the status of the claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Invention

The summary of invention contained in the brief is correct.

(6) Issues

The appellant's statement of the issues in the brief is correct.

(7) Grouping of Claims

Appellant's brief includes a statement that claims do not stand or fall together and provides reasons as set forth in 37 CFR 1.192(c)(7) and (c)(8).

(8) Claims Appealed

The copy of the appealed claims contained in the Appendix to the brief is correct.

(9) Prior Art of Record

The following is a listing of the prior art of record relied upon in the rejection of claims under appeal.

5,519,707	Subramanian	5-1996
5,274,643	Fisk	12-1993

4,884,263	Suzuki	11-1989
5,345,445	Hiller	9-1994

(10) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

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basis for the rejections under this section made in this Office action:

1. Claims 1, 2, 6, 7, 10, 11, 16, 19, 21 and 22 are rejected under 35U.S.C. 102(b) as being anticipated by **Subramanian et al** (U.S. Pat. 5,519,707), (hereinafter referred to as Subramanian).

-Regarding claim 1, **Subramanian** discloses a switching node, comprising: (see figure 6) a switching matrix (401- 405), and a controller (202) to control said switching matrix, said controller configured to set up at least one group of virtual circuits to respective one or more destinations as a virtual circuit bunch. **Subramanian** teaches "a single set-up of all virtual service channels within the virtual service path thus avoiding the need for additional set-up and tear down overhead." (see column 9, lines 58-64). **Subramanian** further teaches "set up and tear down of the various virtual path links and virtual channels requires some form of control", (see column 6, lines 52-54).

-Regarding claim 2, **Subramanian** further teaches a switching node is an ATM switch (see Abstract).

-Regarding claim 6, **Subramanian** teaches a limitation of said controller is configured to assign digital information from a source to one of a plurality of virtual circuits of a virtual circuit bunch (see figure 4C, 4D).

-Regarding claims 7 and 19, **Subramanian** further teaches the assignment of digital information from a source to one of a plurality of virtual circuits of a virtual circuit bunch is done without assigning said one of a plurality of virtual circuits to a connection. **Subramanian** teaches "The disclosed method and apparatus provides for efficient communication of service requests and service grants without requirement to establish new communications paths between the individual switches and the central service provider for each request"(see abstract).

-Regarding claim 10, **Subramanian** discloses a computer apparatus for connection to a switching node comprising (see Fig.3A): a bus; a input device (305), connected to a bus; a communications interface (203) connected to bus; a processor (201) connected to bus, said processor configured to receive an input from a user over said input device and to generate a single request to said switching node to establish a plurality of virtual circuits to respective one or more destinations as a virtual circuit bunch. **Subramanian** teaches "providing for a single set-up of all virtual service channels within the virtual service path thus avoiding the need for additional set-up and tear down overhead", (see column 9, lines 59-64).

-Regarding claim 11, **Subramanian** discloses in a digital switching network having a plurality of interconnected nodes, a method of allocating virtual circuits, comprising the step of: providing an element for performing the step of establishing a plurality of virtual circuits from one node to at least one other node as a virtual circuit bunch in response to a single request. **Subramanian** teaches "For example, network clients, such as client 214, can request the supervisor 202 to set-up and tear down virtual paths/virtual channels over a signaling channel", (see col. 8, lines 1-5).

-Regarding claim 21, **Subramanian** discloses a system for the transmission of digital communications, comprising (see Fig. 4A): a user communication devices (412, 413, 415); a

partially interconnected switching nodes (401, 402, 404, 405), each node serviced by a node controller (202) servicing said user communications devices; in which at least one of said node controllers (202) is configured to set up a group of virtual circuits to respective one or more destination as a virtual circuit bunch. **Subramanian** teaches "network clients, such as client 214, can request the supervisor 202 to set-up and tear down virtual paths/virtual channels over a signaling channel", (see col. 8, line 1-5, also see figures 5A, 5B).

-Regarding claims 16 and 22, **Subramanian** further teaches a virtual circuit from a user at one node is connected to a user at a destination node using a virtual circuit from virtual circuit bunch. **Subramanian** teaches "signaling services allowing each client to communicate with the supervisor 202 to establish user-to-user connectivity (e.g., call set-up and tear-down). For example, network clients, such as client 214, can request the supervisor 202 to set-up and tear down virtual paths/virtual channel over a signaling channel", (see figure 2, col. 7, 8, lines 66-67, 1-10 respectively).

2. Claim 17 is rejected under 35 U.S.C. 102(b) as being anticipated by **Fisk** (US Pat. 5,274,643).

-Regarding claim 17, **Fisk** discloses a method of allocating virtual circuits in a switching system, comprising the steps of: identifying virtual circuits at a node going to a common destination node. **Fisk** teaches "in order for the connection to be placed in the virtual path, the point to point connection of the virtual path leader must match", (see figure 6, element 360, col. 5, lines 40); **Fisk** further teaches aggregating those virtual circuits into a virtual circuit bunch, "group virtual circuit to virtual paths", (see figure 3, element 50). **Fisk** teaches "certain virtual circuits can be grouped into virtual paths to increase the virtual circuit capacity of each node". For this reasons, it would have been obvious to one having ordinary skill in the art at the time of

the invention was made to implement the step of aggregating virtual circuits into a virtual circuit bunch to increase the capacity of the node.

3. Claims 8, 12, 18, 23, 25, 27 and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Subramanian** (US Pat. No. 5,519,707).

-Regarding claim 8, although **Subramanian** does not teach that the virtual circuits of a virtual circuit bunch going to a single destination may be routed over different paths. Yet, it is well known to one skilled in the art that data going to a single destination may be routed over different paths to obtain the shortest path. For this reason, it would have been obvious to those of ordinary skill in the art at the time of the invention was made to modify **Subramanian's** system and method to route the VC of the BCB going to a single destination may be routed over different paths.

-Regarding claim 12, although **Subramanian** does not include setting up switching tables, it is well known to one skilled in the art that when a node has acknowledged the request for setting up a communication path, it is necessary to rewrite the interconnection switching table, called VPI (virtual path identifier) table, that is provided in each node for specifying the cross connection between incoming transmission paths and outgoing transmission paths so that the information can transmitted from one end node of the path reaches the other end node. For this reasons, it would have been obvious to those of ordinary skill in the art at the time of the invention was made to modify the broadcast and translation tables as taught by **Subramanian** (see column 8, lines 15-25) to setting up switching table for each time a communication link is set-up or torn down to allow proper switching of cells transmitted by the client.

-Regarding claim 18, although **Subramanian** does not teach the transfer digital information from a source to a virtual circuits of a virtual circuit bunch, it is well known to one

skilled in the art that in an ATM data networks, data is conveyed in packets called cells including a header and payload of fixed length, a header containing a virtual circuit group identifier and a virtual circuit identifier that define a logical channel between two nodes of network. Thus, to assign digital information from a source to one of a plurality of virtual circuits of a virtual circuit bunch is base on the virtual circuit identifier of each cell and is obvious to one having ordinary skill in the art to transfer digital data from one client to another client.

-Regarding claim 23, **Subramanian** teaches "a virtual circuit bunch" as discussed in claim 1. Although **Subramanian** does not teach a computer program production on said memory medium, it is well known to one having ordinary skill in the art that a switching node may be embodied as a method, a data processing system, or a computer program product. Accordingly, the switching node may take the form of an entirely hardware embodiment, an entirely software embodiment or an embodiment combining software and hardware aspects. Furthermore, the switching node may take the form of a computer program product on a computer-readable storage medium having computer-readable program code means embodied in the storage medium. Any suitable computer readable storage medium may be utilized including hard disks, CD-ROMs, optical storage devices, or magnetic storage device. Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention was made to implement the switching node of **Subramanian** in the form of computer program product that compatible and suitable to their existing switching system to reduce the cost of additional hardware.

-Regarding claim 25, **Subramanian** teaches the step of assigning a packet to a virtual circuit of a virtual circuit bunch, (see column 1, lines 54-67 and col. 2, lines 1-15). Although **Subramanian** does not teach a computer program production on said memory medium, it is well

known to one having ordinary skill in the art that a switching node may be embodied as a method, a data processing system, or a computer program product. Accordingly, the switching node may take the form of an entirely hardware embodiment, an entirely software embodiment or an embodiment combining software and hardware aspects. Furthermore, the switching node may take the form of a computer program product on a computer-readable storage medium having computer-readable program code means embodied in the storage medium. Any suitable computer readable storage medium may be utilized including hard disks, CD-ROMs, optical storage devices, or magnetic storage device. Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention was made to implement the switching node of **Subramanian** in the form of computer program product that compatible and suitable to their existing switching system to reduce the cost of additional hardware equipment.

-Regarding claims 27 and 29, although **Subramanian** does not teach transmitting said instructions from said memory medium to a destination over a communications interface, it is well known to one skilled in the art that communication interface device operate in a well known manner to enable processor to send and receive data over the corresponding communication network. Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention was made to utilize the communications interface device in system of **Subramanian** for transmitting said instructions to a destination over a communications interface to allow proper functions of receive and transmit information between communications nodes.

4. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over **Subramanian** (US Pat. No. 5,519,707) in view of **Suzuki** (US Pat. No. 4,884,263).

-Regarding claim 9, **Subramanian** does not teach the step of retransmit digital data from an assigned virtual circuit identifier to an alternate VCI of the same or different port going to the

same destination. **Suzuki**, in the same field of endeavor, teaches re-establish a new virtual circuit through the network in the event of a trouble or heavy traffic in the virtual circuit (see col. 1, line 33-37). Therefore, it would have been obvious to those of ordinary skill in the art at the time the invention was made to modify the switching system of **Subramanian** with the teaching of providing the steps of retransmit digital data as taught by **Suzuki** to re-routing the message packets to the second logical channel when the abnormal condition is detected in the first virtual circuit.

5. Claims 14, 15, 24 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Subramanian** (US Pat. No. 5,519,707) in view of **Fisk** (US Pat. No. 5,274,643).

-Regarding claim 14, **Subramanian** does not specify the number of virtual circuits to be established to each destination. **Fisk**, in the same field of endeavor, teaches this limitation (see figure 6, col. 5, lines 58-70) "If the total number of virtual circuit members of a virtual path is equal to a maximum group member number (VPM_MAX), the virtual path is packed or full and a number virtual path is started." Thus, it is clearly shown by **Fisk** that the number of virtual circuits to be established at each destination so that the number of virtual circuits can be compared to the predetermined maximum group number, to determined if it can be grouped with the present virtual path. Therefore, it would have been obvious to those of ordinary skill in the art at the time of the invention was made to modify the method of **Subramanian** to include the request specifies the number of virtual circuits as taught by **Fish** to measure the capacity of the virtual path and to balance paths which would optimizes the effectiveness of the virtual path.

-Regarding claim 15, **Subramanian** fails to teach the step for specifies the level of service to be provided by one or more virtual circuit. **Fisk**, in the same field of endeavor, teach this limitation. **Fisk** teaches "in order for the connection to be placed in the virtual path, the

point to point connection of the virtual path leader must match, the virtual circuit must have the same routing restrictions and the same class of service", (see col. 5, lines 41-55). Therefore, it would have been obvious to those of ordinary skill in the art at the time of the invention was made to modify the system and method of **Subramanian** with the teach of **Fisk** in order for the connection to be placed in the appropriate virtual path.

-Regarding claim 24, **Subramanian** does not teach the step of aggregating those virtual circuits into a virtual circuit bunch. **Fisk**, in the same field of endeavor, teaches this limitation. **Fisk** teaches "group virtual circuit to virtual paths.", (see figure 3, element 50). Thus, it would have been obvious to those of ordinary skill in the art at the time the invention was made to modify the system of **Subramanian** with the teaching of providing the step of aggregating virtual circuits into a virtual circuit bunch as taught by **Fisk** to increasing the virtual circuit capacity at each node, the number of nodes required in the network is dramatically decreased and to provide minimum cost to each pass through a topology design. Further, although neither **Subramanian** nor **Fisk** teaches a computer program product, it is well known to one having ordinary skill in the art that a switching node may be implement as a method, a data processing system, or a computer program product. Accordingly, the switching node may take the form of an entirely hardware embodiment, an entirely software combining software and hardware aspects. Furthermore, the switching node may take the form of a computer program product on a computer-readable storage medium having computer-readable program code means embodied in the storage medium. Any suitable computer readable storage medium may be utilized including hard disks, CD-ROMs, optical storage devices, or magnetic storage devices. For this reason, it would have been obvious to one having ordinary skill in the art at the time of the invention was made to implement the switching node of **Subramanian** in view of **Fisk** in form of computer

program product that compatible and suitable to their existing switching system to reduce the cost of additional hardware equipment.

-Regarding claim 28, although **Subramanian** in view of **Fisk** does not teach transmitting said instructions from said memory medium to a destination over a communications interface, it is well known to one skilled in the art that communication interface device operate in a well known manner to enable processor to send and receive data over the corresponding communication network. Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention was made to utilize the communications interface device in the system of **Subramanian** in view of **Fisk** for transmitting said instructions to a destination over a communications interface to allow proper functions of receive and transmit information between communications nodes.

6. Claims 13, 26 and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Subramanian** (U.S. Pat. No. 5,519,707) in view of **Hiller** (U.S. Pat. No. 5,345,445).

-Regarding claim 13, **Subramanian** does not teach the step of request specifies a plurality of destinations. **Hiller**, in the same field of endeavor, teaches this limitation (see figure 15, element 1200). Element 120 of figure 15 shows the receiving path request. Requesting a path specifies a request of plurality of destinations because a virtual circuit path is the collection of plurality of virtual circuits. Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention was made to utilize a path request for specifies a plurality of destinations.

-Regarding claim 26, **Subramanian** does not teach the limitation for allocating a virtual circuit. **Hiller**, in the same field of endeavor, teaches this limitation (see figure 15, element 1212 and figure 15). Thus, it would have been obvious to those of ordinary skill in the art at the time

the invention was made to modify the system of **Subramanian** with the teaching of providing the instructions for allocating a virtual circuit as taught by **Hiller** so that if no paths are available on active virtual circuits for the path request, then a request is made to allocate an additional virtual circuit.

-Regarding claim 30, although **Subramanian** in view of **Hiller** does not teach transmitting said instructions from said memory medium to a destination over a communications interface, it is well known to one skilled in the art that communication interface device operate in a well known manner to enable processor to send and receive data over the corresponding communication network. Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention was made to utilize the communications interface device in system of **Subramanian** in view of **Hiller** for transmitting said instructions to a destination over a communications interface to allow proper receive and transmit information between communications nodes.

(11) Response to Argument

On page 6 of the Appeal Brief, the Appellant described the characteristic of a "VCB" as "establishes a plurality of virtual circuits from one node to at least one other node...in response to a single request." On page 11, Appellant argued that "Subramanian does not teach or suggest the 'VCB' of claims 1, 10, 11 and 21-23, the rejection of claims 1, 10, 11, and 21-23 under 35 U.S.C. 102(b) is improper". Examiner respectfully disagrees with the appellant's argument because Subramanian et al indeed teaches this arguable feature. Subramanian teaches "providing for a single set-up of all virtual service channels within the virtual service path ("VCB") thus avoiding the need for additional set-up and tear down overhead." (see column 9, lines 59-64). The virtual service path as taught by Subramanian is really a "VCB" of Appellant. Subramanian

also teaches that "set up and tear down of the various virtual path links and virtual channels requires some form of control" (see col. 6, lines 50-55). Furthermore, in claim 1, it recites the word "configured" in line 3. This word renders the claim indefinite because it is not clear as whether the controller is actually set up at least one group of virtual circuits. For these reasons, the rejection of claims 1, 10, 11 and 21-23 is proper. For the same reason, the rejection is proper for claims 2, 6 and 7, which depend, directly or indirectly, from claim 1. Also, for the same reason, the rejection is proper for claim 22, which directly depends from claim 21. And the rejection is proper for claim 27, which directly depends from claim 23.

In response to appellants' argument on page 11, regarding claim 6, Appellants argued that "Subramanian fails to show a VCB" Examiner respectfully disagree with the appellants' argument because at least Subramanian shows a VCB (see column 9, lines 59-64 or examiner's answer for claim 1).

In response to appellants' argument on page 11, claim 7, that claim 7 depends from claim 1 which recites "a virtual circuit bunch" and "a controller configured to set up at least one group of virtual circuits...as a virtual circuit bunch." And neither limitation is taught or suggested by Subramanian. Again, examiner respectfully disagree with the appellants' argument because Subramanian indeed teaches both of these limitations. Subramanian teaches that "The present invention provides for multiplexing of services on what is termed herein a "virtual service path" or VSP. This may sometimes also be referred to as a "virtual control path" or VCP...(2) providing for a single set-up of all virtual service channels within the virtual service path thus avoiding the need for additional set-up and tear down over head (see column 9, lines 49-64); Subramanian teaches a single set-up of all virtual service channels is control by the supervisor 202 (controller).

In response to appellants' argument on page 11, regarding claims 18 and 19, appellants argued that "a virtual circuit bunch" which is not taught or suggested by Subramanian. Examiner respectfully disagree with the appellants' argument because Subramanian indeed teaches "a virtual circuit bunch" as shown in examiner's answer for claims 1 and 7.

Appellant argued on page 11, claim 7 that "a virtual circuit bunch" and "a controller configured to set up at least one group of virtual circuits...as a virtual circuit bunch." is not teaches or suggested by Subramanian. Examiner respectfully disagrees with the appellant's argument because Subramanian indeed teaches "a virtual circuit bunch" as explain in examiner's answer for claims 1 and 7. Subramanian further teaches a controller (202) "providing for a single set-up of all virtual service channels within the virtual service path thus avoiding the need for additional set-up and tear down overhead (see column 9 lines 58-65). Also, the terminology "configured" renders the claim indefinite because it is not clear as whether the controller is actually set up at least one group of virtual circuits...as a virtual circuit bunch.

Claim 19 depends from claim 18 and the rejection is proper because Subramanian indeed teaches "a virtual circuit bunch". Subramanian teaches "providing for a single set-up of all virtual service channels within the virtual service path 'VCB' thus avoiding the need for additional set-up and tear down overhead." (see column 9, lines 59-64). The virtual service path as taught by Subramanian is really a "VCB" of Appellant.

In response to appellants' argument on page 12, claim 22, that "claim 22 recites virtual circuit...is connected...using...said virtual circuit bunch which are not shown by Subramanian." Examiner respectfully disagree with the appellants' argument because Subramanian indeed teach this limitation, (see figure 4C), (VCI=35, VCI=23 and VPI=7). In this figure, Subramanian shown that virtual circuit (VCI 35 and VCI 23) is connected using said virtual circuit bunch (VPI

7). Subramanian teaches "The virtual paths may comprise a plurality of virtual channels. The use of virtual channels/virtual paths allows a large number of connections to be supported on a single physical communications link" (see column 6, lines 12-15).

In response to appellants' argument on page 12, claim 27, that "claim 27 recites "transmitting said instructions...to a destination over a communications interface" which is not shown in Subramanian. Examiner respectfully agree with the appellants' argument however it is well known to one skilled in the art that communication interface device operate in a well known manner to enable processor to send and receive data over the corresponding communication network. Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention was made to transmitting said instructions to a destination over a communications interface. Furthermore, the appellants argued that "since Subramanian does not show instructions for establishing a plurality of virtual circuit as a VCB, it does not, and cannot, show transmitting such instructions." Examiner respectfully disagree with the appellants' argument because Subramanian indeed taught a VCB, (see figure 4C and column 9, lines 59-64).

In response to appellants' argument on page 12, claim 17, that "a virtual path is not a VCB; therefore the virtual paths of Fisk do not teach or suggest a VCB." Examiner respectfully disagree with appellants' argument because the prior art of record (Subramanian) indeed taught that a virtual service path is a VCB, (see Subramanian figure 4C and column 9, lines 59-64 or examiner's answer to claim 1). Furthermore, the Appellants argued that "Fisk does not teach how the virtual paths are set up or maintained or broken down." Examiner respectfully disagree with the appellants' argument because Fisk indeed teaches how the virtual paths are set up (see figure 3, columns 5, 6 and lines 40-67, 1-20 respectively). Also, the limitation "virtual paths are set up or maintained or broken down" is not recited anywhere in claim 17.

In response to appellants' argument on page 13, claim 8, that "a virtual circuit bunch" and "a controller configured to set up at least one group of virtual circuits...as a virtual circuit bunch." is not taught or suggested by Subramanian. Again, Subramanian teaches "a virtual circuit bunch" and a controller to set up at least one group of virtual circuits as a virtual circuit bunch, (see column 9, lines 59-64 or examiner's answer to claim 1). Furthermore, the terminology "configured" in claim 8 renders the claim indefinite because it is not clear as whether the controller is actually set up at least one group of virtual circuits. In addition, the appellants argued that claim 8 recites "virtual circuit bunch going to a single destination...routed over different paths" which is not shown by Subramanian. Examiner respectfully agree with the appellants' argument however, as shown in the office action, that it is well known to one skilled in the art that data going to a single destination may be routed over different paths to obtain the shortest path. For this reason, it would have been obvious to those of ordinary skill in the art at the time of the invention was made to implement the system of Subramanian so data going to a single destination may be routed over different paths.

In response to appellants' argument on page 14, claim 12, that claim 12 depends on claim 11, which recites "establishing a plurality of virtual circuits...as a virtual circuit bunch." is not taught or suggested by Subramanian. Again, Examiner respectfully disagree with the appellants' argument because Subramanian indeed taught this limitation (see column 9, lines 59-64 or examiner's answer to claim 1).

In addition, appellants argued that claim 12 recites "setting up switching tables when at least one subsequent node has acknowledged. This is not taught or suggest by the references as the Examiner admits...and the Examiner argues that a switching table is updated when an acknowledgment is received, but the Examiner does not show where a plurality of 'table' can be

set up upon the receipt of 'one' acknowledgment from a node, as required by claim 12." Examiner respectfully disagree with the appellant argument because Subramanian in fact taught this limitation. Subramanian teaches "each time a communication link is set-up or torn town, translation tables in each switch involved in the communication link must be allocated and updated." (see column 2, lines 60-67).

In response to appellants' argument on page 14, claim 18, that "Subramanian does not teach or suggest a VCB and thus cannot assign a packet to a virtual circuit of a virtual circuit bunch." Again, Subramanian taught a VCB (see column 9, lines 59-64 or examiner's answer to claim 1).

In response to appellants' argument on page 14, claim 25 that "Subramanian does not teach or suggest a VCB and thus cannot assign a packet to a virtual circuit of VCB." Examiner respectfully disagree with the appellants' because Subramanian indeed taught a VBC (see column 9, lines 59-04).

In response to the appellants' argument on page 14, claim 29, that "claim 29 recites "transmitting said instructions...to a destination over a communications interface" which is not shown in Subramanian. Examiner respectfully agree with the appellants' argument however it is well known to one skilled in the art that communication interface device operate in a well known manner to enable processor to send and receive data over the corresponding communication network. Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention was made to transmitting said instructions to a destination over a communications interface. Furthermore, the appellants argued that "since Subramanian does not show instructions for establishing a plurality of virtual circuit as a VCB, it does not, and cannot, show transmitting such instructions." Examiner respectfully disagree with the appellants'

argument because Subramanian indeed taught a VCB, (see figure 4C and column 9, lines 59-64).

In response to appellants' argument on page 15, claim 9, that claim 9 depends from claim 1, which recites "a virtual circuit bunch" which is not taught or suggested by either Subramanian or Suzuki." Examiner respectfully disagree with the appellants' argument because at least Subramanian taught a virtual circuit bunch, (see column 9, lines 59-64 or examiner's answer to claim 1). Appellants further argued that claim 9 recites "cell interleaving problem" which are not shown by the references. Appellants furthermore argued that Suzuki mentions "heavy traffic" and "trouble" in the passages cited by the Examiner (Suzuki, column 1, lines 33-37), but does not specify "cell interleaving" as the trouble. Examiner respectfully agree with the appellants' argument however, cell interleaving problem also leading to traffic congestion and also can be consider as "trouble" or abnormal condition in communication system (also see column 2, lines 5-10). Therefore, "cell interleaving problem" is an abnormal condition. Appellants also argued that "retransmit digital data from an assigned virtual circuit identifier to an alternate VCI of the same or different port going to the same destination" as recites in claim 9 is different from reestablish a new virtual circuit through the network to re-routing the message packets to the second logical channel when the abnormal condition is detected in the first virtual circuit." as taught by Suzuki. Examiner respectfully disagrees with the appellants' argument because both appellant and Suzuki showns a single virtual circuit is retransmit by re-routing to an alternate VCI of the same or different port going to the same destination.

In response to appellants' argument on page 16, claim 14, that claim 14 indirectly depend from claim 1, which recites "a virtual circuit bunch" which is not taught or suggested by either Subramanian or Fisk. Examiner respectfully disagree with the appellants' argument because at least Subramanian taught "a virtual circuit bunch" (see column 9, lines 59-65 or see examiner's

answer to claim 1).

In response to claim appellants' argument on page 16 claim 15, that claim 15 directly depends from claim 1, which recites "a virtual circuit bunch" which is not taught or suggested by either Subramanian or Fisk." Again, Examiner respectfully disagree with the appellants' argument because at least Subramanian taught this limitation, (see column 9, lines 59-64 or examiner's answer to claim 1).

In response to appellants' argument on page 17, claim 24, that neither Subramanian or Fisk teach or suggest "instructions for ...aggregating those virtual circuit into a virtual circuit bunch." Again, Examiner respectfully disagree with the appellants' argument because at least Fisk teach this limitation, (see figure 3, element 50), "group virtual circuit to virtual paths."

In response to appellants' argument on page 17, claim 28, Appellants argued that "Because neither Subramanian or Fisk teaches or suggest every limitation of Appellants' claim." But the Appellants do not indicate what limitation is not taught by Subramanian or Fisk. Examiner believes Subramanian in view of Fisk taught or suggested every limitation of Appellants' (see Detail Office Action, claim 28, above).

In response to appellants' argument on page 18, claim 13 that claim 13 directly depends from claim 1, which recites "a virtual circuit bunch" which is not taught or suggested by either Subramanian or Hiller. Examiner respectfully disagree with the appellants' argument because at least Subramanian taught "a virtual circuit bunch" (see column 9, lines 59-64 or examiner's answer to claim 1). In addition, appellants argued that claim 13 recites "said request...specifies a plurality of destinations" which are not shown by the references. Again, Examiner respectfully disagree with this argument because Hiller indeed taught this limitation (see figure 15, element 1200). Element 120 of figure 15 shows the step of receiving path request. Requesting a path is

in turn specifies a request of plurality of destinations because a virtual circuit path is the collection of plurality of virtual circuits, and each virtual circuits may lead to different destination.

In response appellants' argument on page 19, claim 26, that neither Suzuki nor Subramanian nor Hiller teaches a VCB. Examiner respectfully disagree with the appellants' argument because at least Subramanian taught a "VCB". Hiller, in the same field of endeavor, taught the limitation of allocating a virtual circuit (see figure 15, element 1212 and figure 15).

In response to the appellants' argument on page 14, claim 30, that "claim 30 recites "transmitting said instructions...to a destination over a communications interface" which is not shown in Subramanian. Examiner respectfully agree with the appellants' argument however it is well known to one skilled in the art that communication interface device operate in a well known manner to enable processor to send and receive data over the corresponding communication network. Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention was made to transmitting said instructions to a destination over a communications interface. Furthermore, the appellants argued that "since Subramanian does not show instructions for establishing a plurality of virtual circuit as a VCB, it does not, and cannot, show transmitting such instructions." Examiner respectfully disagree with the appellants' argument because Subramanian indeed taught a VCB, (see figure 4C and column 9, lines 59-64

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

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